

XIV. *Additions to the Cicindelidæ fauna of Mexico, with remarks on some of the previously-recorded species.*
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[Read May 7th, 1890.]

PLATE XVI.

THE object of the present paper is to make known the additions to the coleopterous fauna of Mexico, as far as regards the family *Cicindelidæ*, which have been received by Messrs. Godman and Salvin since the completion of *Coleoptera*, vol. i., part 1, of the 'Biologia Centrali-Americana,' and to describe such species and well-marked varieties as appear to be new to Science, correcting at the same time the descriptions and identifications of known species by the light of the more complete material since received. In the 'Biologia' the total number of *Cicindelidæ* recorded was 61 belonging to 5 genera. In the present paper the total is increased to 78, the additions, 17 species, belonging all to the restricted genus *Cicindela*.

Cicindela obsoleta, Say.

Var. or race *Santaclaræ*.

Elytra utrinque maculis quatuor discretis (1ma humerali 2nda infra humerali 3ia et 4ta medianis oblique positis) lunulaque apicali interdum interrupta apice intus recurva, albis. Colore supra variat; (1) sat læte viridis (sicut in *C. campestris*) et (2) purpureo-fusca, opaca marginibus anguste lætioribus. Long. 16—20 mm.

Hab. Santa Clara in Chihuahua (*Höge*).

Excepting the conspicuous and separated maculation of the elytra this form shows no difference from the type-form, and from numerous varieties of *C. obsoleta* found in Colorado, New Mexico, and Texas, none of which exhibit a similar number and form of spots. The second and third spots are always distant from the margin, and the

colour of the green variety is clearer than in Leconté's var. *prasina*. In all the varieties the penultimate joint of the labial palpi is white in the ♂, and dark metallic, like the rest of the palpi, in the ♀; the sculpture of the head and thorax is very faint, and the elytra are smooth except near the base, where they are distantly granulate-punctulate; the under surface is shining brassy green, the abdomen inclining to chalybeous; the middle part of the labrum is produced, tridentate in the ♂ and quinque-dentate in the ♀, the lateral teeth being very small.

Cicindela thalestris. (Pl. XVI., fig. 1).

C. obsoleta (Say) paullo minor fronte utrinque acutius striata corporeque subtus fere toto glabro; supra opaca, viridis, elytris (marginibus exceptis) fusco-viridibus immaculatis, subtus nigro-chalybea lateribus plus minusve purpureis; labro ♂ ♀ medio parum producto et valide tridentato; palpis labialibus articulo penultimo ♂ albo-testaceo, ♀ fusco-testaceo. Long. 18 mm.

Hab. Ventanas in Durango (*Höge*).

Closely allied to *C. obsoleta*, but having a different facies owing to the somewhat more convex and rounded thorax, and relatively shorter elytra gradually though slightly widened in both sexes to a little before the apex. The colour does not differ much from Texan examples of *C. obsoleta*, var. *prasina*, Lec., but the species is certainly different, and the armature of the labrum, strongly tridentate in both sexes, whereas it is five-toothed, the middle tooth alone large, in *C. obsoleta* ♀, readily distinguishes them. The species, in fact, is somewhat intermediate between *C. obsoleta* and *C. pulchra*. In all the examples the under surface is destitute of hairs; none at all are visible on the sides.

Cicindela scotina.

Elongata, atra opaca femoribus cyanescentibus; labro albo, medio (♂) paullo haud abrupte producto tridentato (dentibus 2 lateralibus parvis), fronte plana subtilissime vix perspicue strigulosa, oculis mediocriter prominentibus; thorace quadrato lateribus rotundatis, sulcis profundis, disco vix perspicue striguloso; elytris dimidio basali aspere sat distanter punctatis dimidio apicali lævi,

margine haud serrulato; pectore opaco sparsissime piloso, ventre nitido. Long. 13 mm. ♂.

Hab. Durango (*Flohr*). One example.

A small species of the *obsoleta* group, resembling much the typical form of *C. obsoleta*, with which it agrees in colour, form of labrum, and sculpture of elytra. It differs in the rather more prominent eyes and the narrower and more rounded thorax.

Cicindela viatica, Chevr.

Var. *nigrilabris*. Sericeo-nigra elytris lateribus corporeque subtus cum femoribus interdum leviter cyaneo-tinctis; labro in ♀ semper nigro, in ♂ albo interdum nigro maculis duabus albis, raro fusco-nigro. Long. 10--12 mm.

Agrees precisely with the silky green or greenish blue type-form in all respects, except in the black colour of the body and the labrum of the ♀. The eyes seem, however, to be somewhat less prominent; the peculiar sculpture of the elytra is the same, *viz.*, large but shallow punctures in one or two slight longitudinal depressions, and a rather close punctuation towards the apex; the smooth apical edge of the elytra, the glabrous under surface, and the longitudinally convex labrum, much produced in the middle and tridentate, less strongly in ♂ than in ♀, with lateral teeth short and broad, are also the same. The palpi are black in both sexes, much shorter in *C. viatica* and its variety than in the other species of the genus, without, however, any dilatation of the penultimate joint of the labials.

Hab. Refugio in Durango (*Höge*). A good series of examples.

Cicindela melania.

C. viatica var. *nigrilabri* similis sed valde differt thorace transverso lateribus rotundatis; elytris lævibus palpis longioribus gracilioribusque, etc. Paulo major toto nigra vix sericea; labro (♂) medio late sed haud abrupte et leviter producto, denticulis tribus minutis vix conspicuis; fronte plana toto subtiliter strigulosa; thorace transversim quadrato, lateribus ante medium rotundatis, margine sicut in *C. viatica* albo-piloso; elytris humeris magis rectangulatis apice latius rotundatis, foveolis umbilicatis serie obliqua. Long. 12 mm. ♂.

Hab. Refugio in Durango (*Höge*).

Two males only, perfectly similar, with the remarkable exception that in one the palpi are entirely black, and in the other the penultimate joint of the labials is brownish testaceous.

Cicindela Ritteri. (Pl. XVI., fig. 2).

C. pulchra (Say) appropinquat sed valde differt capite et thorace relative angustis elytrisque longioribus et lateribus; viridi-cyanea elytris violaceis immaculatis, pectore abdomineque violaceo-nigris; labro (♀) albo, vix convexo medio paullulum producto, truncato, unidentato; oculis sat prominentibus collo convexo, fronte glabra utrinque striata; thorace sat angusto, subcylindrico sed brevi, nitido parum striguloso; elytris elongato-oblongis convexis apice late rotundatis sutura recte spinosa, margine haud serrato, versus basin sicut in *C. pulchra* sat grosse et crebre punctata, postice subtilissime punctulatis; corpore subtus fere glabro. Long. 16 mm. ♀.

Hab. Villa Lerdo in Durango (*Ritter*).

One example only has been received of this fine and apparently very distinct species. By Herr Höge's desire I name it after the late Mr. Enrique Ritter, manager of the Hacienda of Coyote, near Lerdo, who took two or three specimens of it.

Cicindela plurigemmata. (Pl. XVI., fig. 3).

C. Flohri similis sed certe diversa, abdomine cæruleo-metallico elytrisque foveolis magnis numerosis cyaneis conspersis. Supra fusco-cuprea sericeo-opaca; thorace subrotundato, sulcis transversis et dorsali profundis disco parum distincte striguloso, sublævi; elytris elongato-ovatis medio disco utrinque striga oblique et interdum guttula submarginali ab humeris longe distantis, albis. Long. 12 mm. ♀.

C. semicircularis, Klug, Jahrb. d. Ins., i., p. 33?

Hab. Refugio in Durango (*Höge*). Three examples only, females.

In general form and other characters this species resembles *C. Flohri*, and seems to have a close relationship with it; but it differs in the uniform metallic cyaneous colour of the under side, and in the sculpture of the elytra, in which latter respect it approaches *C. cyaniventris*. The labrum (white) is advanced in the middle, subtruncate, with a central tooth, and the angles

of the truncature well-marked. The eyes are somewhat strongly prominent, and the sides of the vertex are sharply striated, the central part, as well as the occiput and neck, being nearly smooth or very finely alutaceous, like the convex disk of the thorax on each side. The elytra are rather strongly punctulated throughout, towards the base granulate-punctate, and the large bluish rounded shallow umbilicated foveoles are scattered from the base nearly to the apex; the apices are separately rounded, the edges not serrulated, the sutural apex spinose. The sides of the body are thinly and loosely pubescent, the trochanters blackish, the legs purple-coppery, cyaneous towards the base of the femora.

This species comes nearer Klug's description of his *C. semicircularis* than any other Mexican form that I have seen. It agrees in form, which Klug says is that of *C. flexuosa*, but it differs in the colour of the head, in the labrum being distinctly unidentate in the ♀, in the impunctate thorax, and in the absence of a second submarginal spot on the elytra; and it may therefore be a nearly allied and distinct species. At any rate, the species referred to *C. semicircularis* in the 'Biologia C.-A.,' on the authority of French collections, cannot be that of Klug, who describes the labrum as scarcely armed and the thorax as finely punctured, the wrongly-named insect having the labrum greatly produced, almost narrowly sublobate in the middle in both sexes and strongly tridentate, and the thorax rather coarsely and densely sculptured. It will require, therefore, a new name:—

Cicindela rugatilis.

Cicindela semicircularis, Bates, Biol. Centrali-Amer.,
Col., i., 1, p. 6, t. 1, f. 19 (nec Klug).

Hab. Toluca (*Sallé, Höge*).

Quoad formam *C. tuberculata* (Fab., Nov. Zealand), nec *C. flexuosæ*, Fab., similis. Cupreo-fusca sericeo-opaca, elytris plus minusve nigro-fusco nebulosis, puncto submarginali longe post humerum, altera simili marginali post-medium, fascia paullo obliqua discoidali mediana (fere semper interrupta) maculaque exteriori subapicali obliqua interdum in lineam tenuem marginalem versus apicem ducta, albis; maculis sæpe partim deficientibus guttis tribus interdum solum relictis; labro (♂ ♀) brevi, medio

sublobatim producto et valde tridentato angulis lateralibus rectis; thorace antice rotundato prope basin sat fortiter angustato, undique confuse ruguloso sulcis profundis; elytris supra inæqualibus punctulatis foveolisque numerosis umbilicatis cyaneis in seriebus duabus irregulariter dispositis; subtus nigro cyanea utrinque sparsim pilosa, episterno prothoracico igneo-cupreo subglabro; pedibus cyaneis partim igneo-cupreis. Long. 10—11 mm.

The elytra in both sexes are conjointly and broadly rounded at the apex, the apical edge not serrated, and the sutural angle scarcely spinose. The palpi are all metallic, the penultimate of the labials dark brownish in the ♂. The head and thorax are often of a clearer coppery hue.

Cieindela præcisa. (Pl. XVI., fig. 4).

C. hemichryseæ (Chevr.) subsimilis sed multi robustior, sat brevis capite relative crasso oculis parum prominentibus, thorace subcylindrico postice angustato; fusco-ænea, elytris obscure viridi-æneis alutaceo-opacis fusco-cupreo strigatis passim cyaneo-punctulatis, post-medium fascia brevi parum obliqua curvata vel leviter biflexuosa a margine distante guttaque submarginali ante apicem, albis. Long. 10 mm. ♂ ♀.

Hab. Chilpancingo in Guerrero (*H. H. Smith, Höge*).

Though similar in form to *C. hemichrysea*, this species can scarcely belong to the same group, as the labrum is totally different, being scarcely convex, broadly produced in the middle, with the anterior margin of the produced part more or less truncated and unidentate, and a conspicuous submarginal row of large setiferous punctures 10 or 12 in number. The head is much thicker and broader behind the eyes, which latter are much less prominent; the vertex is only slightly depressed and finely striated, the declivous forehead confusedly rugulose. The thorax is relatively long, gradually narrowed behind, with the transverse sulci only faintly impressed, the dorsal sulcus more strongly so, though abbreviated at both ends, and deeply incised at its basal termination; the disk on each side finely and closely strigulose. The elytra are relatively short, slightly and gradually dilated from the base to near the apex, the shoulders rectangular. The discoidal white fascia lies considerably behind the middle, and in the centre of each elytron is curved or feebly biflexuose, only slightly

oblique and thickened at its inner end; a submarginal præapical spot is the only other white marking. The elytra in both sexes are conjointly rounded at the apex, with small sutural tooth, the margin not serrulated. Beneath greenish æneous, the episterna coppery æneous and more brilliant. The femora and tibiæ cupreous, the tarsi violaceous. The palpi whitish, with the terminal, in the maxillaries also the penultimate joint, metallic. The sides of the body beneath, especially the abdomen and metasternum, are clothed not densely with long incumbent pubescence, the episterna being nearly glabrous and partially strigulose and punctured.

Cicindela guerrerensis. (Pl. XVI., fig. 5).

C. æneicollis (Bates) et *punctulata*, Fab., affinis. Elongata supra cuprea capite et thorace nitidis elytris subopacis his puncto sublaterali infra humeros fascia tenui post-median obliqua S-formi (marginem haud attingenti) lunulaque tenui apicali antice oblique recurva et paullulum incrassata, albis; interdum linea tenui alba marginali inter fasciam et lunulam; thorace angusto lateribus rectissimis. Long. 11—12 mm. ♀.

Hab. Tepetlapa in Guerrero (*H. H. Smith*); Chilpancingo in Guerrero (*Höge*).

Two examples, one ♂ rich coppery above, the other a ♀, evidently discoloured, dull coppery brown, both agreeing in nearly all other respects. The labrum is similar in form to that of *C. æneicollis*, the produced middle part having a truncated edge unispinose in the ♂, and with the angles produced, and therefore subtrispinose in the ♀; the penultimate joint of the labial palpi is white in the ♂, and dull fuscous in the ♀. The apex of the elytra is the same in both sexes, being conjointly and acutely rounded, with an acute spine at the sutural angle. The eyes are only moderately prominent, and the head appears narrow; the forehead and the concave vertex are closely striated, coppery red, with two cyaneous vittæ. The thorax is very finely rugulose-striate, the depressions cyaneous, the sides pubescent. The alutaceous elytra are subsparse and equally punctulate, the points cyaneous and free from accompanying granules, and the usual umbilicated foveoles are seen near the base only. Beneath the colour is cyaneous, with the episterna brilliant fiery coppery. The legs are cupreous

in certain lights, and the sides of the body, especially the abdomen, are clothed with longish scarcely adpressed hairs.

Cicindela specularis. (Pl. XVI., fig. 6).

C. præcisæ affinis, minor et minus convexa; aneo vel cupreo-fusca subopaca; elytris vitta lata abbreviata marginali (a basi usque ad medium) ramulum flexuosum versus discum emittenti politissima, post-medium fasciola tenui flexuosa discoidali guttaque posteriori (interdum deficienti) a margine longe distanti, albis; thorace sicut in *C. præcisæ* postice angustato lateribusque rectis vel (σ solum?) leviter rotundatis. Long. $5\frac{1}{2}$ — $7\frac{1}{2}$ mm. σ ♀.

Hab. Omilteme in Guerrero, 8000 ft. (*H. H. Smith*).

This curious little species is evidently closely allied to *C. præcisæ*, though having much in common with *C. Hoegi* (Bates). The head and thorax are of nearly the same form, at least in the ♀, the ♂ differing strangely in the head being narrower and less convex behind the eyes, and the thorax less rectilinear on the sides. The basal part of the elytra appears flattened, owing to the epipleuræ being vertical in conjunction with the mirror-like marginal stripe, and forming a rectangular edge with the disk, which edge is curiously sinuated at the point, where a brilliantly polished narrow subflexuous oblique vitta is emitted to the disk. The eyes are more prominent than in *C. præcisæ*, and the concave vertex more completely covered with sharp partly concentric striæ. The thorax is finely striated in different directions, and the sulci are still more faintly impressed than in *C. præcisæ*. The elytra are finely alutaceous, beset with bluish green punctures, the interstices of which are minutely marbled with cupreous; the apical margin is not serrulated, and is oblique and straight for a short distance near the sutural angle, which latter is spinose. Beneath blackish blue, glabrous on the sides; femora aurescent. The labrum is broadly produced, subtruncate, unispinose in the middle, as in *C. præcisæ*, but the centre is strongly longitudinally convex, and the submarginal setiferous punctures are less numerous and inconspicuous.

Cicindela punctulata, Fabr.

Var. *Chihuahue*.

Hab. NORTH AMERICA, Arizona (*Morrison*); MEXICO, Santa Clara in Chihuahua, and Chihuahua City (*Höge*).

On comparing a good series of both forms this variety or race presents a very distinct appearance from the more northern *C. punctulata*. It is on the average smaller, more slender, the thorax especially narrower, and the punctuation of the elytra is finer and closer; all the punctures, even to the apex, are accompanied by a distinct granule. The colour differs in being dark greenish blue, but the small and variable white markings of the elytra are the same.

Cicindela politula, Leconté, Tr. Am. Ent. Soc., 1875, 159.

This Texan species has been met with by Herr Höge at Monterey, in Nueva Leon.

Cicindela Dugesi, Bates.

Biologia Centrali-Americana, Col., i., 1, p. 258.

This species has, since the above-cited description was published, been received in numbers from various localities, particularly in the Province Guerrero. The first examples received were all of a coppery æneous hue; most of those lately arrived are greenish brassy brown, opaque, with rather brighter æneous or coppery head, thorax, and elytral suture, the green umbilicated foveoles of the latter conspicuous against the dark colour. The white markings also are more developed than is described in the type-form, in which they consist of a short oblique streak on the disk, with a small posterior discoidal spot; many examples having an apical lunule and marginal posterior spot. The following variety has the aspect of a distinct species:—

Var. *C. calomicra*.—Elytris lunula humerali apice prolongata et cum fascia mediana conjuncta, hac postice cum macula marginali posteriori connexa, lunula apicali antice versus discum prolongata ibique cum macula postero-discoidali conjuncta. Long. 8—9 mm.

Hab. Cuernavaca in Morelos (*Höge*); Chilpancingo in Guerrero (*H. H. Smith, Höge*).

The white markings in their full development much resemble those of the var. *Taretana* of *C. hydrophoba* (*Chevr.*) In some examples the humeral lunule is widely interrupted in the middle, and the apical lunule disconnected from the postero-discal spot, or the latter disappears altogether. The abdomen and four posterior

trochanters are red in all the varieties, and the species clearly belongs to the *rufiventris* group, from all the others of which it is distinguished, besides its small size, by the vaulted subsemicircularly produced labrum, unarmed in the ♂, and sharply unidentate in the ♀.

Cicindela deliciola. (Pl. XVI., fig. 7).

C. dysentericæ (Bates) similis sed differt, inter alia, elytris brevioribus grossius punctatis sicut inæqualibus. Supra opaca pallide viridi-azurea vel grisescenti-cupreo-fusca, elytris plus minusve fusco-nebulosis, thorace transverso subrotundato, elytris lunula humerali postice minime prolongata, fascia mediana parum obliqua cum vittula marginali conjuncta et pone hanc macula ovata marginali, lunulaque apicali tenui, albis; interdum signaturis omnibus (lunula apicali excepta) prope marginem conjunctis. Long. 9 mm. ♂ ♀.

Hab. Real de Monte in Hidalgo (*Höge*).

Rather smaller and relatively shorter than *C. Catharinae* and *C. dysenterica*; thorax rather more transverse and more strongly rounded, and throughout densely and rather coarsely rugulose. The elytra are simply but rather strongly punctate, and not, as in *C. Catharinae*, minutely granulated. The white markings differ from both species especially in the median fascia being uninterrupted and less oblique, by which its dilated apex lies very little behind the middle of the elytra and nearer the suture; a submarginal line extends from the humeral lunule to beyond the middle, but it is narrower and lies nearer the margin than in *C. dysenterica*. The head is sharply and strongly striated, the striae covering the whole crown, and the forehead has two purple vittæ. The thorax is strongly sculptured. The elytra are nearly conjointly rounded at the apex, the apical margin not serrulated, and the suture not spined. The hind trochanters are dark metallic, the abdomen red, with base more or less dusky. Beneath, the prosternal episternum has a few long white hairs and strong punctures near the coxæ, the metasternal episterna are nearly glabrous, and the sides of the abdomen thinly pubescent, both the episterna are golden coppery, the rest of the pectus green, the hind coxæ golden. The labrum is white and subsemicircularly rounded, the margin sinuated on each side, and the

angles distinct though obtuse, the middle in the ♀ unidentate, in the ♂ unarmed.

Cicindela rufiventris, Dej.

Among the great number of examples of the different varieties from very numerous localities referred in the 'Biologia' to this species on the authority of Chaudoir, I have failed to find a single specimen agreeing with Dejean's description in the essential peculiarity of the elytral markings, *viz.*, a crescent-shaped apical lunule and three detached spots in triangle on the disk. The detached spots of course represent the marginal and discoidal ends of the median fascia and the posterior marginal spot, but in Mexican examples it invariably occurs that when the median fascia is dissolved into spots the apical lunule is also disintegrated. The apical lunule remains entire when the median markings degenerate only in closely-allied N. American species, e. g., *C. cumatilis*. Dejean's example was from Palisot de Beauvois's collection, and labelled "St. Domingo"; whether this is correct, or the specimen came from the south-eastern States, is doubtful, and the Mexican forms perhaps do not belong to the same species.

C. rufiventris (?) var. *16-punctata*, Klug (= *rubriventris*, Chev.).—In its typical form this var. is small (9—10 mm.), generally dark and bluish in tint, and the markings form on each elytron eight equal-sized spots, the two median spots sometimes connected by a thin line. It occurs chiefly in the vicinity of the city of Mexico. The hind trochanters are dark brassy brown, the labrum scarcely at all produced in the middle even in the ♀.

Var. *C. Ventanasa*.—Same as *16-punctata*, but larger (10½—12 mm.), and relatively narrower. Apparently common at Ventanas in Durango, and at La Noria in Sinaloa. This var. graduates into the var. *Sallei* of Sinaloa.

Var. ?.—A little longer than *16-punctata* (10½—11 mm.); elytra more parallel, dark purple-coppery with green reflections; median fascia and apical lunule entire (narrow in the middle); trochanters the same. Northern Sonora and Chihuahua; also Arizona.

Var. *Sallei*, Chev. — Distinguished from var. *16-punctata* and *Ventanasa* chiefly by the larger elytral

spots and markings, a character specially mentioned by the describer, who likens the species to *C. aulica*, Dej. The hind trochanters are generally brassy ferruginous, but they are sometimes clear red. The size given by Chevrolat is $10\frac{1}{2}$ mm., but the greater number of examples measure 11—12 mm., or a little more. The labrum is scarcely produced in the middle, unidentate in the ♀. With some local variation it ranges over a wide area; Guatemala, Ceno de Plumas in Oaxaca (*Höge*); Jalapa, Chilpancingo, Iguala, and Mescala in Guerrero (*H. H. Smith*); and Ventanas in Durango (*Höge*). Its southern varieties merge gradually into the following:—

Var. *Mellyi*, Chaud., Bates, Biol. C.-A., Col., i., 1, p. 8, t. 1, f. 7, in which the elytra is of a richer velvety bluish black, and the head and thorax opaque coppery red (Oaxaca, Guatemala), and

Var. *calochroides*, Motsch., in which the two (posterior) marginal spots of the elytra have disappeared, and the apical lunule is often reduced to a spot near the suture. Chontales, Nicaragua.

Cicindela hydrophoba, Chev.

This species is very distinct from *C. rufiventris*, in general form, length, and convexity of the labrum, and in the constant red colour of the hinder trochanters. It seems to have nearly the same range. The only additional locality I have to record is Temax in North Yucatan (*Gaumer*). Herr Höge obtained a large series of the beautiful variety *δ-notata* at Acapulco.

Cicindela nebuligera. (Pl. XVI., fig. 8).

C. rufiventris var. *Sallæi* affinis. Lætius aurato-cuprea, elytris utrinque disco fusco-nigro; thorace prope basin distincte angustato subtiliter ruguloso; elytris maculis humerali et posthumerali, fascia mediana obliqua S-formi, macula posteriori marginali majori, lunulaque apicali integra sat lata interdum cum macula postero-discalis conjuncta; trochanteribus cum medio pectore læte æneis episternis igneo-cupreis, abdomine rufo; labrum antice late arcuatim productum medio brevissime unidentatum margine utrinque leviter sinuato angulis distinctis. Long. 11 mm. ♂ ♀.

Hab. Refugio in Durango (*Höge*).

There are three examples only of this distinct species

of the *rufiventris* group. The elytra are punctured, as in *C. sallowi* and allies, but the umbilicated foveoles are longer and more numerous towards the base; the conjointly rounded apices have nearly smooth edges.

Cicindela rectilatera, Chaud.

This Texan species occurs in the States of Tamaulipas and Coahuila, under the same form as in Texas; but at Villa Lerdo in Durango, where it has been collected in large numbers by Mr. Höge, it presents itself as a tolerably well-marked variety, being generally smaller, the elytra relatively a little shorter, and the white spots larger, the two median spots being sometimes more approximated than usual with traces of a fine line connecting them together.

Cicindela flavopunctata, Chevr.

The southern form of this common *Cicindela* is on the average smaller, and has a decidedly narrower thorax; the hind trochanters also are always red like the abdomen, the latter having little or no trace of fuscous at the base. It is a more important variety than any of the others described under this species, and I propose to call it after the name of the State which appears to form its head-quarters.

Var. *C. Chiapana*. Thorace angusto cylindrico, elytris utrinque maculis quinque albis, abdomine trochanteribusque posticis rufis. Long. 10 mm. ♂ ♀.

Tapachula in Chiapas; La Noria in Sinaloa (*Höge*); Guatemala (*Champion*), near the city (*Salvin*).

Specimens nearly approaching this in the small size and narrow thorax occur in Central Mexico, but they have the same blackish brown trochanters and base of abdomen as the ordinary typical and rather larger form with quadrate thorax. In Nicaragua and Costa Rica another allied but less slender var. occurs.

Cicindela sinaloæ.

Sat angusta, elytris elongato-subovatis. Cupreo-fusca sub opaca, oculis mediocriter prominentibus, thorace quadrato, elytris lunula humerali postice incrassata, fascia mediana valde obliqua recta plerumque interrupta cum vittula lata marginali conjuncta lunu-

laque apicali antice oblique prolongata et extus paullo recurva, albis; pedibus elongatis, trochanteribus apiceque abdominis rufis. Long. 8—11 mm. ♂ ♀.

Hab. Mazatlan (*Höge*).

A small species having the facies (except the longer legs) of *C. sallæi* and allies, but in all its essential characters belonging to the same group as *C. sperata* and *Gabbii*. The labrum is short and broad, with straight front margin in the ♂, and slightly produced and tridentate in the middle in the ♀. The vertex is only moderately depressed between the eyes, and finely striated on the sides. The thorax is quadrate, not much narrower than the head with the eyes, and not greatly exceeded in width by the elytra; its sides are nearly straight, the sulci deep, and the surface minutely sculptured. The elytra are broadest in the middle, and the apices are separately rounded in both sexes, in the ♂ with a short oblique sinuation near the sutural spine, in the ♀ more strongly rounded and produced, with the sutural apex somewhat retracted and the outer margin oblique and subsinuated to the ante-apical angle, which is distinctly indicated; the surface is subgranulate-punctate throughout, the apical margin faintly serrulated. The sides of the body are rather densely clothed with adpressed hairs. The femora are brilliant green, their apices and the tibiæ translucent reddish.

Cicindela fera, Chevrolat.

This distinct species, so similar in form and elytral markings to *C. repanda* (Dej.), but distinguished by the red apical half of the abdomen, the smoother, darker, more opaque, and behind dilated elytra and the glabrous forehead, has been taken in great number by Herr Höge at Villa Lerdo in Durango. He met with it also in more southerly localities, *viz.*, San Juan Bautista in Tabasco, and Tehuantepec.

Cicindela curyscopa. (Pl. XVI., fig. 9).

C. boopi (Mann.) et *C. aurariæ* (Klug) proxime affinis, differt *inter alia*, elytrorum margine albo postice profunde indentata. *Ænea* subnitida; capite lato oculis maxime prominentibus, thorace valde rotundato, elytris margine albo laterali lato medio paullo dila-

tato et prope angulum ante-apicalem profunde indentata. Long 9—12 mm. ♂ ♀.

Hab. Mazatlan in Sinaloa (*Höge*). A good series, offering no variation.

The colour above is brownish brassy, beneath more brilliant and partly golden, with the trochanters, base of femora, and apical segment of the abdomen, fulvotestaceous. The labrum is broad and short, but triangularly advanced in the middle, and unidentate in both sexes, the front margin on each side strongly sinuated. The thorax is rather abruptly and strongly rounded after the anterior transverse sulcus, the surface transversely and irregularly rugulose. The elytra, copery in certain lights, are punctulated throughout, and conjointly acuminate, with a sutural spine; the margin (not serrulate) is oblique and flexuous (more strongly so in the ♀) to the distinct though rounded ante-apical angle. The sides of the body beneath are moderately densely clothed with adpressed hairs. The legs are long and extremely slender, but the claws are not so long as in *C. macrocnema* and allies, being much shorter than the fifth tarsal joint.

Cicindela sperata, Leconté, Tr. Am. Phil. Soc., xi. (1856), p. 50.

Taken in considerable number by Herr Höge at Nuevo Laredo in Tamaulipas, and Villa Lerdo in Durango.

Cicindela psilogramma. (Plate XVI., fig. 10).

C. sperata (Leconte) primo intuitu similis sed valde differt elytris apice utroque sexu conjunctim regulariter rotundatis, trochanteribus cupreo-violaceis, etc. Elongata, supra obscure cupreo-fusca, elytris lunula basali (apice haud recurva) fascia mediana paullo flexuosa valde obliqua apice prope suturam leviter recurva extusque cum vittula marginali conjuncta, lunulaque apicali (antice rectangulariter inflexa) albis, signaturis omnibus tenuibus; thorace angusto fere cylindrico. Long. 11—13 mm. ♂ ♀.

Hab. Villa Lerdo in Durango (*Höge*). A large series of examples.

Similar in form and colour to *C. sperata*, but the white markings differ a little from the most slenderly marked examples of that species, in the humeral lunule

being less curved behind and not thickened at the apex, and in the apical lunule being very abruptly bent. The species forms a transition between the *sperata-marginata* group and the *trisiinata* and *hirticollis* group; the white pubescence of the sides of the body beneath, though rather dense, is less adpressed and felted than in *C. marginata* and allies. The labrum is short and broad, rectangular, with the median part very slightly produced even in the ♀. The thorax is narrow, nearly cylindrical, and minutely, irregularly sculptured. The elytra are proportionally rather long, broader behind, with conjointly rounded and sharply serrulated apical margin; the surface is very regularly, equally, and finely granulate-punctate, with very dense and fine punctuation on the interstices. The under side and legs are bluish green, the four posterior trochanters purple-metallic.

Cicindela leuconoë. (Pl. XVI., fig. 11).

C. macrocnema (Chaud.) affinis et similis sed constanter differt, *inter alia*, elytrorum fascia mediana haud obliqua, prope suturam cum vittula suturae parallela conjuncta. Valde elongata, pedibus posticis longissimis; æneo-vel cupreo-fusca, elytris opacis macula utrinque basali, lunula humerali, fascia mediana curvata transversa cum vittula subsuturali et vitta latiori marginali conjuncta lunulaque apicali antice valde curvata et incrassata, albis. Variat: (1) signaturis omnibus plus minusve coalescentibus, (2) signaturis tenuissimis fascia mediana lunulaque apicali interruptis. Long. 13—15 mm. ♂ ♀.

Hab. Manzanillo in Michoacan, Acapulco in Guerrero (*Höge*).

Distinguished from other members of the group with greatly elongated legs and corresponding claws by the median fascia lying across the elytron, and ending in a short vitta parallel to the suture. The surface of the elytra is minutely granulated throughout, as in *C. macrocnema*; and the apex, as in that species, is conjointly rounded in the ♂, more prolonged and towards the suture separately rounded in the ♀; with the edge serrulated. The labrum is short and broad, quadrangular, with straight front edge and small central tooth. The under surface, legs, and trochanters are brilliant coppery, with the abdomen and middle of the sterna dark æneous; the sides clothed with adpressed hairs.

There is a large series of this elegant species from each of the two localities named above. Those from Acapulco show nearly all a larger extension of white colour on the elytra than those from Manzanillo.

Cicindela debilis. (Pl. XVI., fig. 12).

C. celeripes (Leconte) affinis. Parva angusta, thorace fere cylindrico angusto; fusco-nigra (capite plus minusve cuprascenti) raro viridis, subtus nigra vel cyanea metallica, supra opaca; elytris vitta submarginali (apud humeros et versus apicem marginem attingenti) intus bidentata guttaque discoidali interdum per fasciam tenuem obliquam cum vitta marginali conjuncta, albis, margine ipso plus minusve polito, cupreo. Long. 8—9 mm.

Hab. Ciudad in Durango (*Höge*).

The upper surface is opaque, so that the sculpture of the thorax and elytra is scarcely visible. The labrum is white, produced in the middle and unidentate, the anterior margin being sinuated and the angles subrectangular. The eyes are rather large and prominent, the vertex depressed, and with the forehead densely and finely strigose. The thorax is narrow and nearly cylindrical, a little narrowed near the base; the sides are clothed with white laid hairs. The elytra are rather narrow, though together about twice as broad as the thorax, oblong in the ♂ and elongate-subovate in the ♀; the apical margins in the ♂ are rather sharply rounded and sinuated close to the sutural apex, which is spined and considerably retracted in the ♀. The under surface, especially on the metasternum, is sparsely and loosely pubescent. The trochanters, apex of femora, and the whole of the tibiæ and tarsi, are fulvo-testaceous.

C. celeripes, Lec., in Chaudoir's catalogue, is the type of a group (to which *C. debilis* belongs) placed next to the *C. germanica* group.

EXPLANATION OF PLATE XVI.

- FIG. 1. *Cicindela thalestris*.
2. ,, *Ritteri*.
3. ,, *plurigenmata*.
4. ,, *præcisa*.
5. ,, *guerrerenensis*.
6. ,, *speculans*.
7. ,, *deliciola*.
8. ,, *nebuligera*.
9. ,, *euryscopa*.
10. ,, *psilogramma*.
11. ,, *leuconö*.
12. ,, *debilis*.